

# RELOADABLE DEBIT CARD SYSTEM AND METHOD

## Background of the Invention

### 1. Field of the Invention

The present invention relates generally to debit cards, and in particular to a non-cash, value-added, reloadable card which can be issued anonymously.

### 2. Description of the Prior Art

Commercial transactions typically involve transferring funds. Payments for goods and services involve transferring funds from buyers to sellers. Payments are also made on accounts. Payments can be made with cash, checks, drafts and various other negotiable instruments. Such methods all have their advantages. However, credit and debit cards enjoy ever-increasing popularity for paying on accounts and for purchasing goods and services.

An important advantage of credit/debit cards relates to their security. For example, even if a card is lost or stolen, its owner is normally exposed to only limited liability, if any, for its misuse. Moreover, various security measures tend to minimize unauthorized credit/debit card usage. By verifying cardholder identities and by invoking other security measures, commercial institutions have achieved some measure of success in curbing credit/debit card fraud. Such measures notwithstanding, credit/debit card fraud and the related problem of identity theft continue to cause huge losses.

Credit cards essentially provide their holders with lines of credit from issuing institutions. Thus, purchases and account payments result in credit card account balances.

1 The cardholders are responsible for paying these balances pursuant to the terms and  
2 conditions of the credit card agreements.

3 Debit cards, on the other hand, are used for spending funds which have been pre-  
4 deposited in cardholders' accounts. They tend to operate much like checking accounts  
5 because consumers generally cannot exceed predetermined limits based on their previous  
6 deposits with the issuing institutions.

7 Various systems and methods have previously been proposed for providing  
8 consumers with the convenience of credit/debit cards with certain use restrictions. For  
9 example, the Levine et al. U.S. Patent No. 5,477,038 discloses a method and apparatus for  
10 distributing currency using debit cards. Special-purpose cards have also been proposed  
11 and include pre-paid telephone calling cards. An example is shown in the Stimson et al.  
12 U.S. Patent No. 5,511,114. The Stimson et al. U.S. Patents No. 5,577,109 and No.  
13 5,721,768 also show pre-paid (i.e., debit) cards, which are designed for general purchases.

14 Debit cards are also used for obtaining cash from pre-funded accounts. The  
15 Cucinotta et al. U.S. Patent No. 5,663,546 discloses an example of such a card. The  
16 cardholder can remain anonymous whereby cash transfers can be made confidentially. The  
17 global computer network ("Internet") has been utilized for loading debit cards, which can  
18 then be used for making purchases over the global computer network. An example of  
19 such a system and architecture is shown in the Davis et al. U.S. Patent No. 6,105,008.

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1 Other types of debit cards include "gift" cards, which are typically not reloadable.  
2 Gift cards are available in variations which permit cash to be dispensed and in other  
3 variations which are restricted to purchases of goods and services. For example, Western  
4 Union offers gift cards for dispensing cash to card holders, who can remain anonymous.

5 Heretofore there has not been available a reloadable debit card system and method  
6 for purchasing goods and services with the advantages and features of the present  
7 invention.

8  
9 **Summary of the Invention**

10 In the practice of the present invention, a reloadable, non-cash dispensing debit  
11 card system is provided. The system includes an issuing institution with a main account.  
12 Multiple sub-accounts are established under the main account and are associated with  
13 respective debit cards issued by the issuing institution. The debit cards are pre-assigned  
14 sub-account numbers and incremental face values. The face values can be determined by a  
15 cardholder/purchaser within a predetermined incremental value structure allowing the face  
16 value of the card to be adjusted in predetermined increments. The cards are distributed to  
17 retail (POS) establishments for sale to cardholders/purchasers who can use them for  
18 purchasing goods and services, but not for cash redemption. Optionally, the cards can be  
19 used to purchase negotiable instruments, such as money orders.

1           In the practice of the method of the present invention, an issuing institution  
2     establishes a main account with sub-accounts which are assigned identifying numbers  
3     associated with individual debit cards. The cards are distributed to retail (POS) merchants  
4     and sold to customers/cardholders. Goods and services are purchased with the cards,  
5     which can be reloaded with additional value in predetermined increments.

6  
7     **Objects and Advantages of the Invention**

8           The principal objects and advantages of the present invention include: providing a  
9     reloadable debit card system and method; providing a debit card for such a system;  
10    providing such a card which can be used anonymously; providing such a card which can be  
11    reloaded in predetermined increments; providing such a card which can be restricted to  
12    goods and services purchases; providing such a card which can be preprinted for  
13    distribution to retail (POS) establishments for resale; providing such a card which can be  
14    used for the purchase of goods and services throughout a network of subscribing  
15    merchants; providing a method of purchasing goods and services with reloadable debit  
16    cards; providing such a method wherein the cards are preprinted; providing such a method  
17    wherein the cards are reloadable in incremental value amounts; and providing a card-based  
18    purchasing system and method which are efficient in operation, secure and particularly  
19    well adapted for the proposed uses thereof.

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1 Other objects and advantages of the present invention will become apparent from  
2 the following description, wherein are set forth exemplary embodiments thereof.

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4 **Brief Description of the Drawings**

5 Fig. 1 is a schematic block diagram of a reloadable debit card system embodying  
6 the present invention.

7 Fig. 2 is a flow diagram of a reloadable debit card method embodying the present  
8 invention.

9

10 **Detailed Description of the Preferred Embodiments**

11 **I. Introduction and Environment**

12 As required, detailed embodiments of the present invention are disclosed herein;  
13 however, it is to be understood that the disclosed embodiments are merely exemplary of  
14 the invention, which may be embodied in various forms. Therefore, specific structural and  
15 functional details disclosed herein are not to be interpreted as limiting, but merely as a  
16 basis for the claims and as a representative basis for teaching one skilled in the art to  
17 variously employ the present invention in virtually any appropriately detailed structure.

18 Referring to the drawings in more detail, the reference numeral 2 generally  
19 designates a system for purchasing goods and services with a reloadable (value-added)  
20 debit card 10. The system 2 includes a card-issuing institution 4. The institution 4 can

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1 the institution 4 and represent an aggregate of the sub-accounts 12 in a particular system  
 2 2. Each card 10 is imprinted with a sub-account identifier 18, such as a number or  
 3 combination of alpha and/or numeric characters or digits, which are associated with a  
 4 respective sub-account 12. The printed identifier 18 can be selectively covered by a  
 5 concealing strip 20, which can be in place, for example, prior to purchase and removed by  
 6 the sub-account holder 11 prior to use. In this manner security can be provided whereby  
 7 the identifier 18 is kept confidential.

8 Each card 10 is also equipped with a magnetic strip 22 for recording the identifier  
 9 18 which can be detected by a magnetic card reader 24 associated with a POS  
 10 establishment 8. The card reader 24 is connected to a POS computer terminal 26, which  
 11 is linked (e.g. hardwired, via internet, wirelessly, etc.) to the institution host computer 6.  
 12 Transactions can thus be submitted essentially instantaneously to the institution 4 for  
 13 approval or rejection, depending upon the account balance in the sub-account 12.

14 Security is provided for the system 2 by employing several procedures. Firstly, the  
 15 use of the card 10 can be limited to payment for goods and/or services, which can broadly  
 16 include negotiable instruments such as money orders, cashiers checks, travelers checks,  
 17 etc., made payable to the sub-account holder. By preventing the use of the card 10 to  
 18 directly acquire cash, the cards 10 are less inviting for theft, misuse, etc. The concealed  
 19 identifier 18 also provides security, and the card 10 can be imprinted with a suitable legend  
 20 28 suggesting that the identifier 18 be kept confidential and that the card not be accepted

1 with a pre-exposed identifier **18**, which might indicate that security for the card **10** had  
 2 been compromised. Still further, the POS establishment **8** can require the use of a  
 3 magnetic card reader **24** for insuring that the card **10** must physically be present for a  
 4 transaction to be conducted. Still further, a PIN could be assigned to each sub-account  
 5 **12**, which PIN would not appear on the card **10** but would be known to the sub-account  
 6 holder **11** for verification of his or her card ownership and hence authorization to conclude  
 7 the transaction.

8

## 9 **II. VALUE-ADDED CARD TRANSACTION METHOD**

10 **Fig. 2** is a flow chart depicting an exemplary debit or value-added card transaction  
 11 method embodying the present invention. The method commences at start **100** and  
 12 proceeds to an establish main account by card-issuing institution step **102**. The main  
 13 account is configured with multiple sub-accounts established at **104** and each sub-account  
 14 **12** is assigned an account number at **106**. Incremental face values for the cards **10** are  
 15 determined at **107**. For example, the cards **10** can have predetermined incremental face  
 16 values of \$5, \$10, etc. Cards **10** are printed with their sub-account numbers at **108**.

17 The cards **10** can optionally be provided with magnetic strips **22** at decision block  
 18 **110** which, if answered affirmatively, results in the cards **10** being encoded with their sub-  
 19 account numbers at **111**. If the cards do not have magnetic strips **22** (negative branch  
 20 from decision block **110**), or after the sub-account numbers are encoded at **111**, the

1 method proceeds to distributing the cards 10 to merchant (POS) establishments 8 at 112.

2 The cards 10 can be pre-distributed to the POS network at 112 for inventorying  
3 same. The card sales occur at 114 whereupon the sub-accounts 12 are credited at 116 and  
4 the POS establishment collects the card fees representing the card values plus the  
5 transaction fees at 117. Procedures for implementing the method can be simplified by  
6 providing the added value in predetermined increments, such as \$5, \$10, \$20, etc., as  
7 indicated by the determine incremental face value step 107.

8 The sub-account holder purchases goods and/or services (i.e., at any POS  
9 establishment subscribing to the POS network 8) with the card 10 at 118 whereupon the  
10 sub-account number is input at 120. It will be appreciated that the account number input  
11 step 130 can be accomplished in various ways. For example, the account number could be  
12 read by a magnetic card reader from the magnetic strip. Alternatively, the account number  
13 could be input with a keypad or numeric keyboard. Still further, the account number  
14 could be input remotely, e.g., by telephone or by global computer network (Internet).

15 Purchase authorization is requested by the POS member establishment 8 at 122 by  
16 transmitting the sub-account number and the requested amount (i.e., price) to the issuing  
17 institution 4 at 124. If a magnetic strip 22 is present on the card 10, as determined at  
18 decision block 126, the card 10 is swiped by a magnetic card reader 22 at 128. If the  
19 decision at 126 is negative, or after swiping the card at 128, a "Sufficient Funds?" decision  
20 box 130 is reached. If affirmative, the transaction is authorized at 132 and the method

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1 proceeds to an end block 134. If the sub-account balance is insufficient to cover the  
2 transaction and any fees associated therewith (negative branch from "Sufficient Funds?"  
3 decision block 130), the method proceeds to a "Reload Card?" decision block at 136. The  
4 affirmative branch from the decision block 136 leads to the credit sub-account step at 114.  
5 Otherwise (negative branch from "Reload Card?" decision block 136) the method  
6 proceeds to the end block 134.

7 It will be appreciated that the card 10 can be utilized indefinitely by simply adding  
8 to its incremental value as needed at 116. Optionally, the affirmative branch from a  
9 "Purchase Negotiable Instrument?" decision block 138 provides for payment of all or part  
10 of the entire value of the card (after deducting transaction fees). Payment can be made in  
11 the form of a negotiable instrument, such as a money order, cashiers check, etc. made  
12 payable to the sub-account holder 11. The sub-account holder 11 can present the  
13 negotiable instrument for cashing same. Such a negotiable instrument purchase can be  
14 handled like any other goods or services purchase with the card 10. The negative branch  
15 from the "Purchase Negotiable Instrument?" decision block 138 leads to the end block  
16 140.

17 From a reading of the description above pertaining to the disclosed embodiments  
18 of the present invention, modifications and variations thereto may become apparent to  
19 those skilled in the art. Other alternatives and variations may also become apparent to  
20 those of ordinary skill in the art upon a close examination of this specification in view of

1 the drawings. It should be appreciated that many features and aspects of the present  
2 invention were described above by way of example only and are therefore not intended to  
3 be interpreted as required or essential elements of the invention. Any elements of the  
4 invention that are required or essential would have been explicitly indicated to be so, for  
5 example by describing that the element "must" be included. Therefore, the scope of the  
6 present invention is to be limited only by the following appended claims.

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